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| 23368 7590 03/10/2009 DINSMORE & SHOHL LLP ONE DAYTON CENTRE, ONE SOUTH MAIN STREET SUITE 1300 DAYTON, OH 45402-2023 | | | | |
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARK E. ZACHMAN and JERALD W. YOST

Appeal 2008-2913
Application 10/695,200
Technology Center 3600

Decided:¹ March 10, 2009

Before: WILLIAM F. PATE, III, STEVEN D.A. MCCARTHY and
STEFAN STAICOVICI, *Administrative Patent Judges*.

PATE, III, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from a rejection of claims 1-17. We have jurisdiction under 35 U.S.C. § 6(b).

The claims are directed to an apparatus and method for controlling hydraulically movable ends of a tool such as a screed head.

Claims 1 and 3 are illustrative of the claimed subject matter and is reproduced below:

1. A method for controlling movement of individual hydraulically moveable ends of a screed head carried by a machine so as to maintain a selected elevational position between each end of the screed head and an elevational reference in a concrete paving application, comprising:

providing a control system controlling the hydraulically moveable ends of the screed head;

providing a pair of laser receivers and a gravity-based cross slope sensor to the screed head and in communication with the control system;

setting the pair of laser receivers in an appropriate dead band with the elevational reference; and

using the gravity-based cross slope sensor when one of the laser receivers loses reception of the elevational reference to provide a relative measurement of the interrupted laser receiver which, when coupled with an absolute measurement of the uninterrupted laser receiver, provides an estimate of the absolute position of the interrupted laser receive, the control system using the provided absolute and estimated absolute positions to control the elevation of the hydraulically moveable ends of the screed head.

3. A control system for controlling movement of individual hydraulically moveable ends of a screed head carried by a boom of a machine so as to maintain a selected elevational position between each end of the screed head and a reference in a

concrete paving application as the screed head is moved toward the machine, comprising:

an elevation receiver, mounted on a first end of the screed head, providing a first signal indicating the position of the first end of the screed head in relation to the reference;

an elevation receiver, mounted on a second end of the screed head, providing a second signal indicating the position of the second end of the screed head in relation to the reference;

a sensor, mounted on the screed head, for sensing slope of the screed head along its length from the first end to the second end and providing a third signal indicating said slope; and

a control circuit, responsive to the elevation receivers and to the sensor, for controlling the hydraulically moveable ends of the screed head using the first and second signals from the elevation receivers when the first and second signals are available, and for controlling the hydraulically movable ends of the screed head using the third signal from the sensor and one of the first and second signals from the elevation receivers when the other of the first and second signals is not available.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

| | | |
|---------|----------------|---------------|
| Burgin | US 3,816,937 A | Jun. 18, 1974 |
| Clegg | US 4,807,131 A | Feb. 21, 1989 |
| Heiser | US 4,925,340 A | May 15, 1990 |
| Hohmann | US 5,556,226 A | Sep. 17, 1996 |

The Examiner made the following rejections:

1. Claims 1 and 2 under 35 U.S.C. § 103(a) as being unpatentable over Hohmann in view of Clegg and further in view of Burgin;
2. Claims 3-5, 7-11 and 13-17 under 35 U.S.C. § 103(a) as being unpatentable over Hohmann in view of Clegg; and

3. Claims 6 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Hohmann in view of Clegg and further in view of Heiser.

ISSUE

Have Appellants established that the Examiner erred in rejecting the claims because the applied prior art does not disclose or suggest the claimed feature of using a signal from an alternative sensor to control the height of the ends of a tool upon losing reception of a first sensor?

FINDINGS OF FACT

1. Hohmann addresses the problem of controlling a hydraulic (at 31, 37) screed 15 during the blockage (via 68) of a reference signal 59 received (at 51, 53) from a laser 61. Col. 2, ll. 33-40 and Fig. 2. Hohmann's solution to the problem is to use the signal received from an unblocked sensor 53 to the control the hydraulic actuator 31 of the blocked sensor 51. Col. 3, ll. 24-33 and Figs. 2 and 4.
2. Hohmann does not disclose or suggest using an additional sensor to provide positional feedback to the control system when one of the primary sensors 51, 53 becomes blocked.
3. Clegg teaches that a system for controlling a hydraulic (at 34a, 34b) grading blade 32 may rely upon positional feedback (via 35a) from a slope sensor 35 mounted on the blade 32 in addition to feedback (via 50) from two (col. 10, l. 65 – col. 11, ll. 2) laser detectors 12 mounted on each end of the blade. See Fig. 2.

4. Clegg does not address the situation where feedback from the laser detectors 12 is unavailable due to an obstruction of the beam generated by laser 10.
5. Burgin and Heiser demonstrate examples of slope sensors used in control of a screed. Burgin, col. 2, ll. 50-51; Heiser, col. 1, ll. 62 et seq.

PRINCIPLES OF LAW

The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. The key to supporting any prima facie conclusion of obviousness under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, ___, 127 S. Ct. 1727, 1731 (2007) noted that the analysis supporting a rejection under 35 U.S.C. § 103 should be made explicit. The Federal Circuit has stated that “rejections on obviousness grounds cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). *See also KSR*, 550 U.S. at ___, 127 S. Ct. at 1741.

ANALYSIS

Initially we note that Appellants present arguments relating to the objection of claim 2. Reply Br. p. 1-3. This issue relates to petitionable subject matter under 37 CFR 1.181 and not to appealable subject matter. *See In re Mindick*, 371 F.2d 892, 894 (CCPA 1967).

The method of claim 1 requires, “using the gravity-based cross slope sensor when one of the laser receivers loses reception of the elevational reference to provide a relative measurement of the interrupted laser receiver.” Independent method claim 13 requires a similar step and independent claims 3 and 9, directed to the system, require a control circuit having the capability to perform a similar function.

Hohmann recognizes the problem that Appellants are concerned with. Hohmann does not disclose or fairly suggest the claimed solution of using an additional sensor to provide positional feedback to the control system when one of the primary sensors becomes blocked, however (Fact 2). While Clegg discloses the use of an additional sensor on a similar system (Fact 3), Clegg does not address the problem that Appellant is concerned with, namely, loss of reception of a signal from the first sensor (Fact 4). Clegg, therefore, does not fairly suggest using a signal from the additional sensor to control the height of the ends of the tool upon losing reception of the signal from the first sensor as noted by Appellant. Br. p. 18. Clegg also does not disclose or fairly suggest a control system configured for that capability. Br. p. 22. The portions of Clegg cited by the Examiner (Ans. p. 16 and 19) are devoid of any suggestion to perform this step or to provide a control circuit with this capability. The Examiner’s conclusion that it would have been obvious to use the sensors of Clegg in the claimed manner when confronted with the problem of Hohmann is not supported by any factual underpinning and therefore amounts to speculation and conjecture. A rejection on obviousness grounds cannot be sustained with a mere conclusory statement that Appellants’ claimed solution would have been obvious.

Burgin and Heiser do not cure the deficiencies of Hohmann and Clegg discussed above. Since the rejection of independent claims 1, 3, 9 and 13 cannot be sustained, the rejection of dependent claims 2, 4-8, 10-12, and 14-17 must also fall.

CONCLUSION OF LAW

On the record before us, Appellants have established that the Examiner erred in rejecting claims 1-17

DECISION

For the above reasons, the Examiner's rejection of claims 1-17 is reversed.

REVERSED

vsh

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